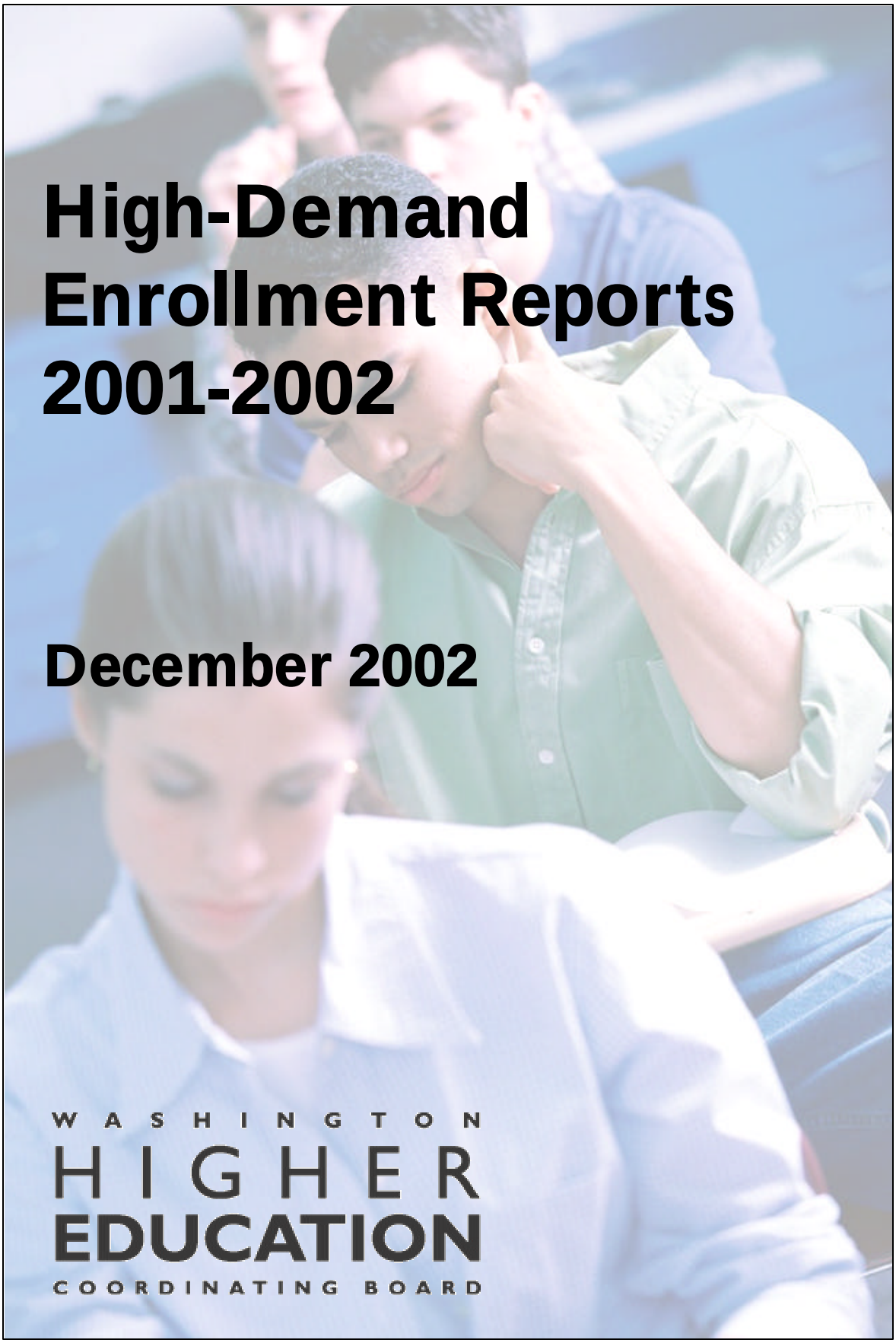

High-Demand Enrollment Reports 2001-2002

December 2002

WASHINGTON
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High-Demand Enrollment Reports, 2001-02

Table of Contents

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December 2002

High-Demand Enrollment Reports, 2001-02
Overview And Executive Summary

OVERVIEW

The 2001-03 state operating budget requires the state's public colleges and universities to report annually to the Higher Education Coordinating Board (HECB) how they have used new enrollments to respond to high-demand program needs. The budget directs each four-year institution to submit a report; the State Board for Community and Technical Colleges (SBCTC) is to report for the system of 34 two-year colleges.

Specifically, the budget (SB 6387) states:

> *"When allocating newly budgeted enrollments, each institution of higher education shall give priority to high demand fields, including but not limited to technology, health professions, and education. At the end of each fiscal year, each institution of higher education and the State Board for Community and Technical Colleges shall submit a report to the Higher Education Coordinating Board detailing how newly budgeted enrollments have been allocated."*

To help the colleges and universities meet this requirement, the HECB staff, in consultation with the fiscal and higher education committees of the Legislature and the Office of Financial Management (OFM), developed a memorandum containing a number of questions designed to elicit the information desired by the Legislature and Governor. The SBCTC responded on behalf of the two-year colleges. The baccalaureates' Council of Presidents coordinated the reports of the individual four-year schools.

This document provides an overview of issues pertaining to high-demand enrollments and summarizes the institutions' reports for the 2001-02 academic year. The appendices contain the HECB's information request, the full report of the SBCTC, and the full report of each baccalaureate institution.

The staff of the HECB appreciates the efforts of the institutions and the assistance of the SBCTC and the Council of Presidents in fulfilling this reporting requirement. In addition, the staff of the legislative fiscal and higher education committees and OFM provided valuable insights and suggestions to ensure that the intent of the Legislature and Governor was reflected in the HECB's initial request for information.

HIGH-DEMAND ENROLLMENT ISSUES

For several years in Washington, the term "high-demand" has described (1) instructional programs or fields in which student enrollment applications exceed available slots, and (2) career fields in which employers are unable to find enough skilled graduates to fill available jobs.

While workforce training has long been a core mission of the community and technical college system, the state in 1999 recognized the need to expand career-oriented high-demand programs at baccalaureate as well as two-year institutions. Prompted by reports that showed a shortage of trained graduates in career fields that offered strong job and salary growth, lawmakers agreed to a proposal by Governor Gary Locke to direct the HECB to administer a $4.7 million high-demand enrollment pool. This pool of funds and 550 full-time undergraduate enrollment slots were allocated in response to competitive proposals by the public two-year and four-year colleges and universities. Three baccalaureate institutions and 11 community and technical colleges received funds for new or expanded programs, and these funds remain in the institutions' base budgets for 2001-03.

The high-demand enrollment pool was not continued in the 2001-03 biennium. Instead, the Legislature and Governor directed the public colleges and universities to report each year to the HECB about their activities to create more enrollment opportunities in high-demand fields.

Legislative discussions, the reports of the colleges and universities, and the HECB's experience with the high-demand enrollment pool have revealed a number of statewide issues that will affect the state's long-term ability to increase targeted opportunities for students in high-demand fields.

High-demand programs are often quite expensive. All parties to this discussion recognize high-demand programs are often among the most expensive for colleges to offer, with exceptionally high equipment, facility and other costs compared to traditional "talk and chalk" instruction. This poses a major challenge, given the state's current fiscal environment.

In the 1999-2001 biennium, the Legislature and Governor acknowledged these high costs by providing more than $9,000 per FTE student for the competitive high-demand pool – well above the average per-student funding for general undergraduate enrollments. And, in its 2001-02 report, Washington State University indicates it spends up to six times more to educate students in high-demand, high-need programs than in typical social sciences programs.

The need for funds to expand and create new high-demand programs is one of the reasons why the HECB has recommended a substantial increase in "core" funding for the public colleges and universities. The HECB has also recommended restoration of funding for a competitive 1,000-FTE high-demand enrollment pool like the one it administered in 1999-2001, with per-student funding of up to $10,000 per FTE.

Reallocations are an important, but limited, source of high-demand funds. Colleges and universities regularly shift funding from among their various academic and workforce programs. Along this line, the Eastern Washington University report offers a very enlightening discussion about institutional budgeting. But because high-demand programs are often quite expensive, it is an over-simplification to assume that colleges and universities can shift enrollment allocations on a one-for-one basis from low-cost, low-demand programs to much more expensive high-demand programs. As the introduction to the four-year institutions' reports states, "…there are limits to how much reallocation is possible without reducing funding below sustainable levels in other important programs."

Colleges face conflicting pressures and expectations. As these reports imply, colleges and universities are trying to respond to a conflicting set of expectations. On one hand, they are pressured to dramatically increase high-demand enrollments to provide career opportunities to students and to meet the state's need for a skilled work force. At the same time, they also face the prospect of continued cuts to their base budgets. All this is occurring when every two-year and four-year college and university is over-enrolled, with growing numbers of prospective students on the way. Demand for all kinds of college education is increasing rapidly with the growth in the size of the prime college-age population and increasing needs for the retraining of older students.

Partnerships in support of high-demand programs. Partnerships among educational institutions (for example, CWU's university centers at several community colleges) and public-private partnerships involving businesses, labor groups, economic development councils and industry associations are critical to the state's long-term ability to respond to high-demand program needs. Several of the institutions' reports – particularly that of Washington State University – describe partnerships that offer excellent models for maximizing the return on the state's investment.

A note about definitions. Since 1999, the term "high-demand" has commonly referred to academic and job training programs or fields of instruction at two-year and four-year colleges and universities that share two major traits:

(1) Student enrollment pressure has outstripped available slots; **and**
(2) Employers have significantly more job vacancies than can be filled by graduates of Washington colleges and universities.

When it administered the 1999-2001 high-demand enrollment allocation, the HECB's review team, which included a cross-section of educators, labor market specialists and economic development experts, decided that a proposal would not be considered a high-demand project unless it documented both unmet student enrollment demand **and** unfilled jobs for graduates of the specific high-demand field. This two-pronged standard remains the definition used by the HECB.

The community and technical college report attached to this document generally reflects this approach. For example, the report states, "Demand for community and technical college programs are driven by two main factors: 1) demand from students and 2) the workforce training needs of Washington state."

However, the reports from the public four-year college and universities use a different, three-part definition. Those reports define "high demand" programs as those with unmet **student** enrollment pressure; "high need" programs as those for which **employers** and the state need more graduates than the higher education institutions currently provide; and "high cost" programs that are significantly **more expensive** to offer than the average program. Under these definitions, instructional programs may meet one, two, or all three of these standards.

While appreciating the four-year institutions' desire to address all of the components of the high-demand enrollment issue, the HECB staff would caution against defining the term "high-demand" as purely student-centered. The definition of "high-demand" programs should continue to encompass both the student enrollment demand **and** the needs of Washington employers and industry sectors.

EXECUTIVE SUMMARY OF THE COLLEGES AND UNIVERSITIES' REPORTS

Community and Technical College system

The two-year colleges received authorization and funding for 1,750 new full-time enrollments in 2001-02.

New enrollments were allocated according to a system enrollment plan that responds to anticipated population growth and citizen demand. Individual colleges assign new enrollments into specific programs – a local decision in response to student and community needs.

Across the system, enrollment growth in 2001-02 occurred primarily in three areas: academic transfer (8.5 percent increase), developmental (6.8 percent) and basic skills courses (4.2 percent). Enrollment was flat in overall workforce program enrollment (0.1 percent increase).

Despite little change in overall workforce enrollment, colleges continued recent efforts to shift training programs toward high-wage occupations and away from lower-wage programs. For example, between 1997 and 2002, colleges increased their enrollments in information technology training by 56 percent. In addition, colleges have increased opportunities for students to complete short-term training in fields such as health care.

On-line distance education enrollments in all areas continued its dramatic recent increase. The two-year system now serves more than 5,000 FTEs via on-line instruction.

Central Washington University

CWU received no new enrollment funding in 2001-02. The previous (1999-2001) biennial budget reduced authorized enrollment by 400 FTE due to what the university describes as "a brief and temporary downturn in enrollment."

Through internal reallocations, the college has increased enrollment in a number of high-demand programs during the past two to four years. These include computer science, industrial and engineering technology, music and music education, and law and justice.

CWU's six university centers around the state are collaborating with local community and technical colleges to offer a number of upper-division and graduate courses and programs, including high-demand offerings in education, engineering technology, business administration, and law and justice.

Specific program enrollment numbers for 2001-02 were not included in the university's report.

Eastern Washington University

EWU received authorization and funding for 69 new full-time enrollments in 2001-02, but increased enrollment in high-demand programs by about three times that number.

The university's report focuses on growth in several high-demand programs:

- Health sciences: 103 FTE increase during 2001-02;
- Computing and engineering sciences: 28 FTE increase; and
- Counseling, educational and developmental psychology and special education: 62 FTE increase.

EWU uses a budget allocation process for state funds and tuition revenue that reflects both enrollment changes (in upper- and lower-division, graduate and program enrollments) and policy objectives. This process enables the university to shift funds to areas that are growing, and to redirect resources from programs with relatively low enrollment.

The university notes that in the policy-based distribution, "Resources are allocated on the basis of institutional values and linkages and not on fair share." Further, EWU is also reviewing programs with low demand with the goal of program consolidation or elimination.

One of Eastern's major policy investments in 2001-02 was to use $150,000 in tuition dollars to create and fund a School for Computing and Engineering Sciences.

Eastern's report said further growth in computing and engineering sciences depends on the funding and completion of the Cheney Hall capital construction project, for which the university has requested and the HECB has endorsed $24 million in the 2003-05 biennium.

The Evergreen State College

Evergreen's report focuses on the entire 2001-03 biennium rather than the first fiscal year. It notes that the college received authorization and funding for 124 new full-time enrollments during the biennium (41 FTE in 2001-02 and 83 FTE in 2002-03).

During the biennium, TESC has allocated the new state-funded enrollments to four broad course and program areas:

- Tribal programs (undergraduate and master's in public administration);
- Two- and four-credit courses in foreign language, writing, mathematics, film and theater;
- Upper-division programs in Tacoma for working adults; and
- Quantitative reasoning support for students.

Specific program enrollment numbers for 2001-02 were not included in the university's report. Since most of Evergreen's classes are inter-disciplinary, the college said it does not "departmentalize" its curriculum and does not allocate FTE enrollments to a particular department.

University of Washington

The UW received authorization and funding for 132 new full-time enrollments during 2001-02. Sixty-eight FTE were designated for undergraduate programs and 64 FTE for graduate programs. Nine of the new undergraduate enrollments were earmarked for the main campus in Seattle. The remainder were divided between the Bothell (25 FTE) and Tacoma (34 FTE) branch campuses.

In allocating new enrollments, the university favored programs for which the necessary instructional infrastructure was already in place (teaching labs, office space for additional faculty, etc.) over those that required more money than the state provided.

Several new and ongoing initiatives will expand high-demand offerings in computer engineering, bioengineering, information sciences at the Seattle campus and the computer and software systems program at the Bothell branch campus. At the Tacoma branch campus, the university is developing the new Institute of Technology with two-year college and industry partners.

The university said it also used the new enrollment allocation to increase the enrollment capacity in "bottleneck" courses that are often the prerequisite for high-demand programs.

Specific program enrollment numbers for 2001-02 were not included in the university's report.

Washington State University

WSU received no new enrollment funding in 2001-02. In fact, the authorized enrollment at the Pullman campus was reduced by 277 FTE in response to what the university describes as "a temporary leveling of enrollment."

The university's responses to high-demand program needs occurred through budget reallocations, but the report said WSU's ability to shift funding internally was "severely limited by budget reductions."

The university depends on a mix of high- and low-cost programs to balance its budget, and high-demand programs often are very expensive. The university's report describes the high cost of several high-demand programs. For example, WSU cited the $30,070 annual cost per FTE in the health sciences field, compared with $5,357 for a social sciences student.

Specific program enrollment numbers for 2001-02 were not included in the university's report.

Western Washington University

WWU received authorization and funding for 150 new full-time enrollments in 2001-02.

In allocating new enrollments, Western said it remains "highly constrained in terms of classroom and laboratory space" and that its facility utilization rate far exceeds the norms established by the HECB.

WWU has attempted to build capacity for more students in several high-demand programs, including computer science, engineering technology and management information systems. The university notes that it received a Higher Education Coordinating Board high-demand enrollment grant in 1999-2001 that added 65 FTE students to the management information systems program.

Specific program enrollment numbers for 2001-02 were not included in the university's report.

The university cites the difficulty of recruiting and retaining faculty as a "critical impediment" to its effort to expand high-demand programs. The report indicates faculty turnover has been substantial in such areas as engineering technology, while salaries have not been competitive in various business disciplines.

The university continues to favor a proposal by Provost Andrew Bodman for the state to provide "premium funding" as a way to recognize the colleges' and universities' extraordinary costs in providing many high-demand instructional programs. The report describes this approach as "a highly cost-effective alternative to the so-called "high-demand" pool requested by the HECB.

STATE OF WASHINGTON
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September 27, 2002

To: Mike Scroggins, State Board for Community and Technical Colleges
Karl Boehmke, Washington State University
Paula Rustan and Judy McNickle, Western Washington University
Steve Trotter, The Evergreen State College
Linda Beath, Central Washington University
Mary Voves and George Durrie, Eastern Washington University
Harlan Patterson and Dick Thompson, University of Washington

From: Bruce Botka
Higher Education Coordinating Board

Subject: High-demand Enrollment Reports for 2001-02 Academic Year

I am writing this memo to discuss the annual high-demand enrollment reporting requirement that is contained in the 2001-03 state operating budget (SB 6387).

Section 602 of the budget, which establishes higher education enrollment levels, directs the state's public colleges and universities to "give priority to high demand fields, including but not limited to technology, health professions and education" when they allocate newly budgeted enrollments during this biennium. Section 602 also requires each baccalaureate institution and the State Board for Community and Technical Colleges to report at the end of each fiscal year to the Higher Education Coordinating Board "detailing how newly budgeted enrollments have been allocated."

It is clear that the Legislature and Governor have several questions about the institutions' response to high-demand program needs. We have worked with legislative and OFM staff to develop the following list of questions, which we request that you address in your report on the 2001-02 academic year.

We need to receive your completed report by November 1, 2002, so that we can report to members of the HECB at their meeting in early December. This timetable will ensure that complete and consistent information is available to the Legislature when it convenes in January. **We plan to include your verbatim responses as appendices to our report to the Legislature and Governor.**

- What programs or courses of study qualify as "high-demand" programs at your institution? In answering this question, please consider high-demand programs as those where student enrollment applications exceed available space **and** where there is documented unmet need among employers for skilled college graduates in directly related fields.

- If your institution received funding for new enrollments in 2001-02, how were those funds (or enrollment slots) distributed to meet high-demand program needs? Please indicate whether your institution designated specific numbers of new enrollment slots for specific high-demand programs.

- Separate from the question regarding the use of *new* enrollment funding in 2001-02, did your institution reallocate any existing state funds or use other fund sources to respond to high-demand program needs? If yes, please explain. (**Note**: Not all institutions received a new enrollment allocation for 2001-02, but we assume that all institutions took at least some actions to respond to high-demand needs.)

- Please describe any actions you took to reallocate enrollment slots away from lower-enrollment or lower-wage programs to expand in high-demand areas. For example, the community and technical college system has worked for several years to change the system's "program mix" to emphasize high-demand, high-wage programs. Information of this kind would be appropriate here.

- In all cases where you have responded to high-demand program needs, please provide statistics to demonstrate the scope of the demand and the impact of your response. This statistical context will be especially important to help the Legislature and Governor evaluate the effectiveness of current higher education funding and operations.

- Please describe the extent to which your institution(s) have been successful in forming partnerships with businesses, industry sector associations or other organizations to meet high-demand capacity, budget and other needs.

- Please add any relevant comments that you believe would help the Legislature and Governor fully understand the context of high-demand programs and issues. Of particular interest may be the challenge of meeting the need for high-demand enrollments or programs that are significantly more expensive than "traditional" enrollments or programs. How is your institution funding new high-demand FTE slots that are significantly more expensive than the average per-student cost?

As always, we appreciate your efforts. I will be out of the office until October 21. After that time, you may contact me at 360-753-7811 or bruceb@hecb.wa.gov. In the meantime, if you have questions or would like more information, please contact John Fricke (360-753-7826 or johnf@hecb.wa.gov) or Ruta Fanning (360-753-7822 or rutaf@hecb.wa.gov). Thank you for your assistance.

cc: Karen Barrett, Senate Ways and Means Committee
Susan Howson, House Appropriations Committee
Jim Crawford, Office of Financial Management
Jean Six, Senate Higher Education Committee
Sydney Forrester, House Higher Education Committee
Theo Yu, Office of Financial Management
Debora Merle, Office of Financial Management

APPENDIX B

REPORT TO THE HIGHER EDUCATION COORDINATING BOARD

PUBLIC BACCALAUREATE INSTITUTIONS' RESPONSE

HIGH DEMAND – HIGH NEED – HIGH COST ENROLLMENT ALLOCATIONS

2001 – 2003

Submitted by the Council of Presidents' Interinstitutional Committee of Academic Officers (ICAO)

November 15, 2002.

HIGH DEMAND – HIGH NEED – HIGH COST

I. INTRODUCTION:

All of the state's colleges and universities continuously develop new programs, realign existing programs, and reallocate resources to meet both the needs of the state and student demand for programs, within the constraints of institutional budgets. Talking about this on-going endeavor is complicated by the fact that what is often termed "High Demand" involves three separate factors, not just one. In this context, it will help to clarify our conversation if we agree on the following terms:

"High Demand" (student-centered term) means that there is greater student interest in or demand for the program than institutions are able to meet or, perhaps, than the economy is able to absorb. These programs require very little recruitment effort. Communications and some areas of business are examples of high demand programs.

"High Need" (employer-centered term) means that employers and the state have a greater need for such graduates than institutions are able to provide, sometimes because too few students are naturally attracted to that field – for example, teachers in math, physics, chemistry, technology, and special education are high need areas. Such areas may require more student recruitment efforts.

"High Cost" means that the cost per FTE of the program is well above the average – as much as twice the average or more -- making it difficult to implement or expand the program with new enrollment funding provided by the state at the average. Examples of high cost programs include music, speech pathology, and audiology.

Some programs under discussion are all three -- high demand, high need, and high cost -- others fit one or two of the definitions. Nursing is a frequently cited example that meets all three definitions. There are far more students interested in becoming nurses than the institutions have spaces for; there is a desperate need in the state for additional well-educated nurses; and nursing education is extremely high cost.

Institutional approaches to meeting the challenges of allocation and reallocation will vary, depending on the categories into which different programs fall. However, when a program is high cost, as well as high demand and/or high need, there are limits to how much reallocation is possible without reducing funding below sustainable levels in other important programs.

II. REPORTS BY INSTITUTIONS:

UNIVERSITY OF WASHINGTON

The 2001-02 enrollment allocation to the University was 132 FTE, 9 undergraduate and 46 graduate FTE at the Seattle Campus, 25 undergraduate and 8 graduate at the Bothell Campus and 34 undergraduate and 10 graduate at the Tacoma Campus. The allocation raised the total University authorized enrollment level to 34,820.

Three principles governed decisions about enrollment allocations at the UW, which were clearly spelled out in the UW enrollment proposal to the State. Priority was given to those opportunities that:

(1) Prepared students for a knowledge-based economy.
(2) Provided students with a unique education.
(3) Met both student and employer demands.

Additionally, proposals from units clearly ready to receive additional students – units with the necessary infrastructure in place (e.g., teaching labs, office space for additional faculty, etc.) – were chosen over those requiring additional funding beyond that provided by the State.

Guided by these principles, the UW was pleased to be able to offer additional educational opportunities including those in the following areas:

High demand, high need, high cost:

- The most ambitious new program at the UW is at Tacoma in the form of the new Tacoma Institute of Technology. Inspired in part by the Governor's vision for the State, implemented in conjunction with community college partners, and shaped in response to industry expectations, the program is designed to meet both employer and student demand.

- In Seattle: the *computer engineering* program continued on the pathway of meeting its goal of doubling the size of its major; *bioengineering* began a significant ramp-up in the size of its major; and the newly-formed Information School established opportunities at the undergraduate and graduate levels in *information sciences* (which were quickly oversubscribed).

- Bothell expanded the *Computer and Software Systems* program.

High demand:

- The balance of the enrollment allocation at Seattle, Bothell, and Tacoma went to Arts and Sciences to meet course and major access needs of students. The key *bottleneck courses* are often the prerequisites for the high demand/high need/high cost programs listed in the first category. For instance, all programs of study related to computing and engineering require *calculus*. In order to keep up with the expansion of those programs, it is also necessary to increase the spaces in these classes.[1]
- Bothell and Tacoma report that student demand is considerable in the high need areas, but is greatest, in fact, for the *Interdisciplinary Arts and Sciences* programs at each of their campuses.

[1] The ecology of enrollment planning is sometimes underappreciated. It does students no good to add opportunities to study in a high demand area without also making sure that the courses necessary to prepare for study in that major – from writing to math to biology – are available on time and on demand to ensure student progress. Sometimes, allocations to the basic arts, humanities, sciences, and social sciences are the most important boost to the much more visible high need programs.

- At all three campuses, demand for *Business* at the undergraduate and graduate levels remains high. In 2001, Bothell began its MBA program.

- Seattle has reallocated enrollments to make better use of existing facilities, and in this year offered, for the first time, a *Friday-Saturday school option* for students in high demand courses and programs of study. One option is offered by the Information School. However, the most fully subscribed are the arts courses – in Dance, Drama and Art – accommodating the desires of students to study in these areas (and to fulfill their general education distribution requirements).

High demand, high need:

- The Bachelor of *Social Work* program at Tacoma took on a new cohort of students.

- *Education* programs at all three campuses are realigning their curricula to better serve the pressing needs of present and future teachers.

- A new *Masters in Public Health in Community-Oriented Public Health Practice and Health Promotion* in Seattle that grew out of a year-long, community-by-community evaluation of the needs of the State of Washington by the Dean of the School of Public Health and Community Medicine.

High demand, high cost:

- Seattle decided to significantly increase the size of its *Honors Program*, designed to serve the special needs of top academic achievers in the State. There is far greater demand for even the larger Honors Program than can be accommodated. The smaller size of Honors' introductory classes means that the average cost per student in Honors is greater than that for lower-division undergraduates as a whole.

High need, high cost:

- PharmD program (in coordination with WSU).

It should be noted that the enrollment allocation from the State was far less than that requested at all three campuses. In Seattle, had the UW received funding for additional FTEs, Nursing would most likely have been the recipient, another high demand/high need/high cost area.

Additional State enrollment allocations are critical for launching new programs in areas of high demand, high need, and high cost and in the past three biennia have contributed to a new set of opportunities for students that offer unparalleled education in many areas. At the same time, in the normal course of their business, faculty continuously revise courses and curricula – streamlining, reorganizing, reconceptualizing, and introducing new teaching methods – all of which add up to academic programs constantly recalibrating to meet the new needs of students, their future employers, and their communities.

WASHINGTON STATE UNIVERSITY

Washington State University addressed high demand and high need disciplines largely through reallocations. WSU received no new funding for expanded enrollment for 2001-02. The budget was cut and the target for Pullman was re-based by 277 FTE due to what turned out to be a temporary leveling of enrollment. Targets for WSU Spokane and WSU Vancouver were increased in 2002-2003 by 42 students and 82 students respectively.

WSU's ability to reallocate funds to high demand enrollment was severely limited by budget reductions. Enrollment demand was a consideration as reductions were taken to protect high demand areas. Many high demand programs are also high cost for the university to offer, which makes it difficult to simply reallocate resources to high demand programs. The university relies on a mix of high cost and low cost programs to balance its budget. (The annual costs per student for several high demand, high need, high cost programs is shown below.)

The university spends almost six times as much to train a health sciences student as to train a social science student. For example, according to the 2002 cost study commissioned by the HECB, the cost on the Pullman campus for an annual average FTE (lower- and upper-division) social science student is $5,357, compared to $30,070 for a health science student. The overall average cost for the Pullman campus for upper division, undergraduate is $10,263, and for all divisions it's $8,115.

Data in the table below show the scope of the high demand and high need areas and how they relate to the general per FTE cost of the programs.

Examples of high demand and high need courses, and the costs associated with them.

Demand	Need	Cost
In the past two years, only about a third of all applicants to the nursing program were enrolled.	The state of Washington projects a need of 12,150 additional RN's by 2008 as well as an additional 1,850 health services managers	Health sciences: $30,070 (Pharmacy and nursing, all divisions, all levels)
Similar to nursing, only about one in three of the students applying to the pharmacy program were actually enrolled.	AACP projects that nationally there may be a shortfall of 100,000 pharmacists by 2020. WSU students graduating from the pharmacy program routinely get 12-15 job offers each.	Health sciences: $30,070 (Pharmacy and nursing, all divisions, all levels)
At the graduate level, engineering science majors have increased 250 percent since 1995 and engineering management majors by almost 30 percent.	In Washington alone, computer engineer and engineering management positions are expected to grow by 12,450 in the next six years	Engineering: $18,252 (Pullman, undergraduate, upper-division)
Since 1995, undergraduate MIS majors have increased 267 percent. Business administration graduate students have increased by 26 percent.	It's expected that the state will need almost 4000 additional information systems managers by 2008, as well as 17, 450 computer support specialists.	Business Administration: $9,900 (Pullman, undergraduate, upper-division)
Education majors at the UG and Grad levels have increased 38 and 60 percent (361 students) respectively since 1995.	Washington projects a need for 9,100 more secondary school and 2,850 special education teachers by 2008.	Education: $5,675 (Pullman, undergraduate, upper-division)

The 42 new student FTE in Spokane for 2002-2003 were devoted to the PharmD program to address the significant shortage of pharmacists. Students are admitted to the four-year PharmD program after achieving junior status. Previously only the final year was in Spokane, with the other years in Pullman. In fall 2002 the third year began moving to Spokane to improve opportunities for multidisciplinary training with other health sciences students; to access the new facilities in the Health Sciences Building; and to improve opportunities to interact with the pharmacy profession. The move and the additional funding permit increasing the size of each graduating PharmD class from 72 to 90 students, as well as increasing the size of the pre-Pharm program.

The new funding for enrollment in Vancouver allowed for the addition of faculty in high demand programs to expand program capacity. The campus allocated an additional faculty position for computer science, two additional positions for education, and added funds to the nursing budget which, combined with existing funds, made a new position available in that unit.

Below are examples of successful partnerships with businesses, industry sector associations, and other organizations that help the institution meet high demand and high need capacity, budgets, and other needs:

- Besides the more than $105 million the university brought in sponsored research last year, it also partners extensively on the licensing of technology produced from research conducted at WSU. These licenses produce fees and royalties that help with the educational programs of the university. They also produce local jobs, where many students are employed, giving students the opportunity to gain access to state-of-the-art practices in an industrial setting.
- In computer science at WSU Tri-Cities, a major gift of approximately $150,000 per year from a local donor is enabling us to add a senior faculty member, update computer labs, and supplement the operations budget, and a community fund raising effort provided approximately $40,000 for library materials and operational expenses.
- In Vancouver, work is being done with local high tech firms to find ways of creating the engineering and computer science programs that they are demanding.
- Among the many partnerships the graduate school has formed is a large National Institutes of Health training program grant in protein chemistry where graduate students must fulfill an internship within an industrial research setting.
- In the College of Engineering and Architecture, teaching laboratory equipment and software are almost completely obtained as gifts from companies and from alumni where gifts are matched by their employers. The college also has “preferred university” status with particular companies, such as Hewlett-Packard, Boeing, and Agilent, to get priority for their philanthropy and equipment gifts.
- The College of Pharmacy has shared faculty positions with several medical centers in Spokane and Yakima where each partner provides half of salary and benefits to receive clinical services from WSU faculty who provide clinical rotations for PharmD students.
- In Yakima, the College of Nursing formed a partnership with Valley Memorial and Providence hospitals to provide partial funding to admit an additional section of 12 basic baccalaureate students.
- One of the College of Education's many partnerships is the Rural Education Center (REC), which has developed a coalition of more than 60 small and rural school districts to actively work on common education related issues, projects, grants and legislative initiatives. The REC has developed strong partnerships with the Northwest Regional Educational Laboratory, professional organizations, and Washington businesses.
- The College of Business and Economics created the MIS Advisory Board, where each company/individual provides $4,000 per year for program support.

Central Washington University

Central Washington University received no funding for increased enrollment in the 2001-03 biennium. The previous biennial budget was rebased down by approximately 400 FTE due to what turned out to be a brief and temporary downturn in enrollment. The 2001-03 biennial budget maintained that low base of 7470 FTE.

During the current biennium, CWU has successfully followed the directive given by HECB, OFM and the legislature to meet the enrollment target that had been projected for the university in the previous biennium. Based upon Fall 2002 census enrollment CWU will have an annualized average in FY 2003 of approximately 8000 FTE. In FY 2002 CWU had an annualized average enrollment of 7672 FTE. CWU has exceeded the enrollment that we had projected, been funded for, and not achieved in the previous biennium.

In recovering from the enrollment downturn CWU has managed enrollment and made internal reallocations of resources to meet an appropriate combination of student demand and state need. In this process of enrollment management and recovery CWU has been able to offer additional educational opportunities including those in the following areas:

High demand, high need, and high cost:

- Our Computer Science major has grown by 78% in the past two years and by 140% over the past two biennia (since the biennium before the budget was rebased).

- Industrial and Engineering Technology has grown steadily, increasing by approximately 50% over two biennia. A cohort-based MS in engineering technology was established at our Westside higher education centers this biennium and has two full cohorts.

- Education and Teacher Certification programs, which are high cost due to the extensive supervision of student teachers that CWU requires, have increased modestly and remain at approximately 25% of our enrollment and graduates. We have expanded offerings in the emerging high need areas of special education and bilingual/TESL. Cohort programs at CWU higher education centers are oversubscribed and not all students can be accommodated.

- Music and Music Education majors continue to grow steadily, increasing by approximately 50% over two biennia. These high cost programs are not typically considered high need, however, our graduates have virtually a 100% employment rate. The majority of the music teachers in the state of Washington has been, and continues to be, educated at CWU.

High demand and high need:

- Law and Justice majors have increased by 35% this biennium. This is now the third largest major at CWU after education and business administration. Graduates have good success in obtaining employment in the subfields of enforcement, corrections, probation and paralegal.

- The demand for undergraduate Business degrees, particularly at CWU higher education centers, remains high. Graduates continue to have multiple job opportunities.

- The M.S. in Resource Management is our fastest growing graduate program and is now the second largest Masters degree program. Many of these students obtain fulltime employment in the field before completing the degree, which increases time to graduation.

- The numbers of majors in Biological Sciences, and Chemistry and Biochemistry continue to steadily increase at both the undergraduate and Masters levels. A large majority of majors in these relatively high cost disciplines continue on for advanced or professional degrees in biotechnology or the health sciences.

High Demand

- Considerable increase in FTE has occurred in general education courses in letters, arts and sciences, particularly in Communications, English and Mathematics, to meet the needs of our students, to increase retention and to decrease time to graduation. Many of these "bottleneck courses" are prerequisites to our high demand, high need programs.

- There has been a 35% increase in Political Science majors, largely with students with a pre-law focus.

Central Washington University has efficiently cooperated and collaborated with community and technical college partners at our six university centers to offer upper division and graduate courses, and grant Bachelor's and Master's degrees, to time and place bound students in the following high need and high demand areas: Education, Engineering Technology, Business Administration, and Law and Justice. CWU has created innovative partnerships with businesses and other organizations to do workforce training in high demand high need areas. An example is our "Career Switcher" program in which a cohort of engineers recently displaced from the aerospace industry is being retrained as secondary teachers with a mathematics certification.

It should be noted again that these increases in enrollment in high demand and high need programs have occurred at CWU through internal reallocation of resources with no increase in enrollment funding. Increased enrollment funding is essential for maintaining the quality of these programs; meeting the unmet demand for many of these programs; allowing the faculty to continually revise courses and curriculum, and employ new, more effective and efficient teaching method; and for developing and offering new high demand, high need and high cost programs to meet the changing needs of students, employers and society.

EASTERN WASHINGTON UNIVERSITY

Eastern Washington University has embarked on its fifth straight year of enrollment growth of over 300 full-time equivalent students (FTES) each of those years. The University established an enrollment growth plan back in 1998, which was approved by the Higher Education Coordinating Board. Eastern has exceeded the goal in each year of that enrollment plan. Focused on its mission to "prepare broadly educated, technologically proficient, and highly productive citizens to attain meaningful careers, to enjoy enriched lives, and to make contributions to a culturally diverse society", Eastern has demonstrated serious commitment to its mission.

The State and this University have a shared responsibility to provide educational access to students. Eastern recognizes the importance of empowering the State's citizenry by providing an opportunity for a better education. Eastern recognizes the multi-million dollar impact that a University has on the State's economy through an educated citizenry. Eastern Washington University depends on state support to effectively manage its enrollment growth plan. University-bound citizens depend on the state subsidy to higher education to make educational opportunities more affordable, especially during periods of state revenue downturns.

In the 2001-2003 biennial budget request, Eastern Washington University asked the legislature to fund 100 new FTES for each year of the biennium. Eastern received $362,000 dollars from the State for an additional 69 FTES in the 2001-2002 academic year.

Eastern surpassed the 69 FTES enrollment level for the academic year, enrolling an additional 340 FTE students above the state funded level for just fiscal year 2001-2002. All total, by the end of academic year 2001-2002, Eastern had accumulated 487 annual average FTES more than had been funded by the state. Although Fall 2002 data brings the accumulated total to over 712 FTES not yet funded by the state, this report will focus on the 2001-2002 academic year.

High Demand, High Need, High Cost Programs

Eastern Washington University continues to experience increased student demand, especially in the fields of Health Sciences; Computing and Engineering Sciences; and Counseling, Educational, and Developmental Psychology. From a student perspective, many of these programs are in high demand. From the University's perspective, many of these programs are high cost, and from the perspective of business and industry these particular programs are all high need. Although Eastern can demonstrate growth in many programs, the University will focus on these three programs for the 2001-2002 report to the legislature.

Eastern has experienced a sharp enrollment increase in the Health Sciences programs. The enrollment increases of 103 FTES in the Health Science programs alone, far surpassed the 69 FTES new enrollment funding that Eastern received from the State. Demonstrating a continuing trend, Eastern's Biology and Chemistry enrollments jumped another 86 FTES. With the completion of the new Riverpoint Health Sciences Building, Eastern is also experiencing rapid growth in the Dental Hygiene programs as well as Occupational Therapy. The high demand for Eastern's Health Science programs is a direct result of the close partnerships that Eastern has built with the Spokane medical community. (See Appendix for examples of unmet need.)

Enrollment increases in Computing and Engineering Science programs grew by a modest 28 FTES. Although there is demonstrated high student demand as well as high need in the technology industry, Eastern's further growth in the computer and engineering science programs is dependent on the funding and completion of a capital project (Computing and Engineering Sciences Building – Cheney Hall) to provide additional classroom and laboratory space. While the University can still sustain some enrollment increases, the program will achieve much higher levels of growth with the additional classroom and laboratory space.

Eastern has also experienced increased student demand in our Counseling, Educational, and Developmental Psychology programs, with the largest increase in the field of Special Education. With 76 declared majors in Fall

2001, the Special Education undergraduate degree program, created at Eastern in response to overwhelming student demand, doubled its student enrollments in just one year. It should also be noted that the Special Education program is not only a high demand program, it is a high cost program as well. Only 25 FTES of our total enrollments in this area have been funded as high cost by the State.

The following table highlights our highest demand programs.

Growth in FTES for Academic Year 2001-2002
For Highest Demand Programs

Program Descriptions	FTES
Health Sciences—Occupational Therapy, Dental Hygiene, Biology, Chemistry, Bio-Chemistry	103.40
Computing and Engineering Sciences—Computer Science, Physics, Technology	28.23
Counseling, Educational, and Developmental Psychology, Special Education	62.32
Other disciplines—English, Psychology, Modern Languages, Physical Education, Health and Recreation, Anthropology, Art, Communication Studies, History, Management, Economics, and others	146.20
Academic Year 01-02 Enrollment Increases	**340.15**

Funding Process for New Enrollments

Eastern has a budget allocation process that is both enrollment based and policy based. The enrollment-based allocation process is formula driven and funding is distributed based on changes in enrollment levels in lower division, upper division, and graduate categories by academic program. The allocation distributes all new tuition revenue from enrollment increases and all state funding for new enrollments. Eastern has made sure that both funding provided by the state and tuition dollars are allocated to these programs to help the colleges meet the student demand. This same process also redirects resources from programs with low demand enrollments.

The policy-based budget allocation process is the portion of the budget that is committed to fostering strategic initiatives, innovations and entrepreneurial activities that are directly related to the strategic plan of the university. These resources are allocated on the basis of institutional values and linkages and not on fair share. All new revenue from tuition rate increases, efficiency savings, unrestricted state funding and budget reallocations is allocated to support university-level initiatives including unfunded portions of state authorized salary or benefit increases, a responsible university contingency reserve and strategic initiatives that are prioritized through the policy based budget process.

The policy-based budget allocation process is an effective tool that senior administration uses to position the University to respond to student demand and industry need. One of Eastern's major policy investments this past year was to create and fund a School for Computing and Engineering Sciences for $150,000 using new tuition dollars. This is yet another proactive planning step Eastern must take in anticipation of the completion of the Computing and Engineering Sciences Building. Eastern will not only be prepared to expand its existing science and computer engineering programs, but will work diligently on the development of other meaningful course curricula. Eastern recently received a direct congressional appropriation of $1 million for the development of a new degree program in Cyber-Security. Coinciding with the completion of the new building, Eastern will have the course curricula

in place that are needed to meet the growing student demands and industry needs in this important technology area. Until the completion of this expanded facility, Eastern can do little more to meet the industry and student demand.

Eastern is also in the process of reviewing programs with low demand with the goal of program amalgamation or elimination. This effort will also lead to a reallocation of resources within the University. As budgets are further reduced, Eastern simply no longer has the luxury of providing such a wide array of program options for our students.

Partnerships with Eastern

"Transition to Success" is just one example of a recently formed partnership. This college consortium was created to facilitate student transfers from community colleges to Eastern Washington University and Central Washington University. The goal of this partnership is to provide student participants with a clear understanding of the courses required and processes necessary to complete their baccalaureate academic goal through a variety of options appropriate to their academic, financial, career and personal situations and decisions.

Eastern also partners with business to provide an exchange of ideas, experiences and industry expectations through internships for our students. Through these exchanges, Eastern's faculty stays in touch with current business trends and industry needs, while guiding students to meet those needs.

Future Enrollment Funding

Eastern has reached its annual average goal of over 8,700 FTES for the 2002-2003 academic year. Eastern will attempt to hold the enrollments relatively flat during the 2003-2005 biennium. This will hopefully give some relief to the State as far as funding the enrollment needs of our region. But, it's not as easy as turning a faucet on or off. The University has commitments to students already admitted to Eastern to provide them with a quality education and serve their educational needs. Eastern has however, through our managed enrollment growth plan, reduced lower division educational costs significantly lower than the cost of branch campuses and has still been able to continue to provide a quality education for its students.

Holding our enrollments flat is inconsistent with the legislative directive given Eastern to grow the institution to its full capacity. Planned and sustained enrollment growth is critical for two important reasons. First and foremost, continued enrollment growth at Eastern Washington University meets the test of good public policy. With increased demands on higher education within our region and the state, maximizing existing educational capacity becomes critical. Second, Eastern has the educational capacity to support the eastern region and absorb additional growth from the west side of the state as well. Funding Eastern's enrollment increases will reduce the State's total cost of enrollment and overall capital investment. Eastern is committed to serving its mission for its region and the state, but it is imperative that the State continues to meet its obligation to fund this growth.

The tuition revenue from enrollment growth, as well as general fund state dollars are thoughtfully invested in quality and service improvements to our programs. A commitment from the legislature to match the tuition dollars that students pay with general fund state dollars will provide Eastern with the critical resources necessary to sustain and manage growth and still provide a cost effective, quality education.

The State and this University have a shared responsibility to provide educational access to students. The university-bound citizens of Washington depend on state support to make educational opportunities affordable. Eastern depends on state support to effectively manage its enrollment growth plan, which includes managing all resources necessary to meet growing instructional demand, student services needs, and other infrastructure operating costs. With a wise, upfront investment in higher education, the state can depend on its educated citizenry to provide a greater long-term financial stability to the State's revenue as well as contribute to a culturally diverse society.

Appendix: Examples of Unmet Need in Academic Programs

The health science programs are constrained by accreditation limits and laboratory space limitations for the number of students in a program each year. Because of those limitations, the programs are unable to accept all applicants. For example, Dental Hygiene had 50 more applicants than space available; and Occupational Therapy (OT), still in its developmental phase, received 20 applications. Although Physical Therapy (PT) has consistently received more applications than space available, the 2001-2002 academic year shows a decrease in student enrollments while Eastern restructured the course curricula to an applied Doctorate in Physical Therapy

Eastern's Occupational Therapy graduates have received 100 percent placement. Already this Fall 2002, Eastern has received urgent calls for graduates to fill 17 vacancies—nine of those requested were to fill vacancies in Spokane health professions and school districts.

Eastern's Dental Hygiene program paints a similar picture. The Washington State Dental Association recently published the Dental Workforce Study 200l results. Washington State reports that 39% of its full-time general dentists report at least one dental hygiene vacancy, up from 18% in 1999. Washington State has 3,000 practicing dental hygienists and 1,000 vacancies.

Employment opportunities for students graduating with these degrees appear to be endless. The American Physical Therapy Association's weekly publication of job opportunities nationwide currently includes over 500 opportunities. Some of last Spring's graduates in PT received as many as 14 job interviews. Already this Fall 2002, Eastern has received calls from school districts as well as other businesses requesting referrals for PT graduates for their unfilled positions.

In addition to the many newspaper articles, and industry journals, the U.S. Bureau of Labor 2002-03 Occupational Outlook Handbook projects the Computer software engineering field to be the fastest growing occupation over the 2000-2010 period.

The U.S. Bureau of Labor also reports that employment of special education teachers is expected to increase faster than the average for all occupations through 2010, spurred by continued growth in the number of special education students needing services, legislation emphasizing training and employment for individuals with disabilities, and educational reforms requiring higher standards for graduation.

2001-2002 Enrollment Allocation

Western Washington University received an additional 150 FTE funded students in 2001-2002. This was a number slightly larger than our request but consistent with our plan for moderate growth on the campus, especially in the areas of upper division and graduate students. The pace of our overall growth and growth in specific programs is dictated by the availability of resources such as classrooms, offices and faculty. In allocating these enrollments at Western, while we remained highly constrained in terms of classroom and laboratory space (our utilization of space continues to far exceed the norms established by the HEC Board), we were pleased to offer increased opportunities in some of the high demand, high need and high cost programs mentioned below.

Western, a High Demand Institution

Western can be characterized as a "high demand institution". Student applications have increased in every year for the past decade and enrollment on our campus has grown by 24% in the previous decade. We serve the state's needs by providing a very high quality undergraduate experience, consistent with our niche as one of the premier public comprehensive universities in the country. This includes twin goals of providing access to the diversity of high quality programs which meet student preferences and of meeting the state's needs by expanding our capacity in areas where employment opportunities are strong.

High Demand Programs

A variety of Western's programs are highly popular with students. These include a mix of traditional liberal arts disciplines (English, Psychology, Communication, History, Sociology, Political Science and Biology) and professional degree programs (Finance and Marketing, Human Services, Elementary Education and Management). Each of these programs accounted for three per cent or more of our graduates in 2001-2002. One of our principal problems in institutional management is in ensuring access to key entry-point courses in some of these and other majors. Institutional research from last year suggests that we have seven times the demand that we can currently accommodate for entry-level course to the majors in disciplines such as Journalism and Communication. These are areas of high student demand, where limited access is a potential problem, components that tend to worsen time to degree statistics.

High Demand, High Need and High Cost Programs

Student interest in some programs which correspond with high state needs is more variable. We have consistently attempted to build capacity in critical areas, such as Computer Science, Engineering Technology and Management Information Systems and the pattern of growth has been encouraging in some areas. With assistance from a HEC Board grant, for example, we expanded our capacity in Management Information Systems by 65 FTE students in the 1999-2001 biennium. This is a high cost, high need and high demand program. Interest in computer science as a major has grown exponentially. We have more than tripled the number of computer science graduates within this decade (69 in 2001-2002 compared to an average of 20.4 per year between 1991 and 1995). We would again ask the HEC Board to note that each of these additional graduates costs approximately $3,500 more to educate each year than the average student. This means that the annual cost of satisfying student preferences and addressing the needs of the state in computer science, a high cost major, requires additional expenditures of approximately $175,000. Because Western receives no additional funding from the state in support of this increase in high cost enrollments, internal resources must be shifted, an impediment to building these programs to meet the needs of the state. As Provost Bodman testified to the HEC Board in December 2000, we strongly endorse the idea of premium funding to reward institutions for their efforts to meet state needs as a highly cost-effective alternative to the so called "high demand" pool requested by the HEC Board.

Faculty Recruitment and Retention

One other critical impediment in our attempts to build capacity in high demand and high need fields has been recruiting and retaining faculty in these areas. Over the past year we have been fortunate to recruit a chair (at the second attempt) and another tenure-track faculty member in Computer Science. We have had difficulty retaining faculty in areas such as Engineering Technology, where faculty turnover has been substantial, and in various Business disciplines, where our salaries have not been competitive.

Partnerships with Industry

We have engaged extensively in partnerships with industry. We received a matching grant from the HEC Board that allowed us to launch an innovative Internet Studies program. We have consistently sought support and advice for our efforts in areas such as Manufacturing Management, Biochemistry and Business Administration and have developed a variety of collaborative relationships which allow us to place student interns with private firms, as part of our commitment to provide the highest quality educational experience for our students.

College of Sciences and Technology

Finally, we should note that Western is considering a reorganization of its college structure that, if approved, will create a College of Sciences and Technology. This will allow us to marshal resources more effectively and to focus activities more precisely on meeting the high state need areas that will be represented within this new college.

THE EVERGREEN STATE COLLEGE

Evergreen received an additional 124 FTE for the FY 2001-03 biennium. Rather than reporting on one fiscal year, it makes sense for us to report for the full biennium as most of our FTE were received in the second year (83 FTE). The four-year public institutions have agreed to report to you in the following format: high demand, high need, and high cost programs.

High Demand by Our Students:

These additional state-funded FTEs were used to address the high demand by our students had during the FY 2001-03 biennium:

- Tribal programs: undergraduate and master's in public administration
- Two and four credit courses (including foreign language, writing, mathematics, film and theater)
- Upper division program offerings on Tacoma campus for working adults
- Quantitative reasoning support for more students

High Need Workforce:

As the public liberal arts college of Washington State, we have continued to be at budgeted enrollment or over enrolled for the last two decades. We take this as an indication of strong student demand for our college's liberal arts program. Most of our classes are interdisciplinary so that we do not departmentalize our curriculum thus do not allocate FTEs to a particular department. Our liberal arts education provides a well-rounded graduate who can meet the demands of the work force and participate as an active and knowledgeable citizen. Our graduates are employed in a variety of different disciplines[2] including many high needs fields identified by employers such as teachers, business entrepreneurs and managers, and computer software engineers. The variety of our graduates' careers is reflected in our alumni survey results below:

- 28% in business
- 28% in education and psychology
- 14% in science
- 13% in arts
- 8% in computer science
- 5% law and law enforcement

High Cost:

Our programs have a low student to faculty ratio with no teaching assistants. The result is that it costs on average more for us to teach all of our students, but we believe they have a better quality and more personalized education.

[2] Based on alumni cumulated surveys from 1988-2000

APPENDIX C

State Board for Community & Technical Colleges
High Demand Enrollment Report for 2001-02

Electronic version is not available. Please call 360-753-7850 if you would like to receive a photocopy of the response.